SEQUENCE LISTING

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<120> GUAVA (PSIDIUM GUAJAVA) 13-HYDROPEROXIDE LYASE AND USES THEREOF

<130> 06027.0001U3

<140> 09/578,533
<141> 2000-05-24

<160> 27

<170> FastSEQ for Windows Version 3.0

<210> 1
<211> 7
<212> PRT
<213> Psidium Guajava (guava)

<400> 1
Thr Tyr Pro Pro Ser Leu Ser
1 5

<210> 2
<211> 476
<212> PRT
<213> Psidium Guajava (guava)

<400> 2

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1 5 10 15
Pro Thr Thr Leu Pro Val Arg Thr Ile Pro Gly Ser Tyr Gly Trp Pro
20 25 30
Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly
35 40 45
Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val
50 55 60
Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn
65 70 75 80
Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe
85 90 95
Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met
100 105 110
Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp
115 120 125
Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile
130 135 140
Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu
145 150 155 160
Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn
165 170 175
Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser
180 185 190
Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys
195 200 205
Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro
210 215 220
Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His
225 230 235 240
Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu
245 250 255
Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys
260 265 270
Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe
275 280 285
Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr
290 295 300

Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu
305 310 315 320
Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser
325 330 335
Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg
340 345 350
Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe
355 360 365
Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu
370 375 380
Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp
385 390 395 400
Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu
405 410 415
Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr
420 425 430
Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala
435 440 445
Cys Leu Phe Val Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly
450 455 460
Ser Ser Ser Ser Ile Thr Ala Val Glu Lys Ala Asn
465 470 475

<210> 3
<211> 480
<212> PRT
<213> Psidium Guajava (guava)

<400> 3
Met Ser Pro Ala Met Ser Ser Thr Tyr Pro Pro Ser Leu Ser Pro Pro
1 5 10 15
Ser Ser Pro Arg Pro Thr Thr Leu Pro Val Arg Thr Ile Pro Gly Ser
20 25 30
Tyr Gly Trp Pro Leu Leu Gly Pro Ile Ser Asp Arg Leu Asp Tyr Phe
35 40 45
Trp Phe Gln Gly Pro Glu Thr Phe Phe Arg Lys Arg Ile Glu Lys Tyr
50 55 60
Lys Ser Thr Val Phe Arg Ala Asn Val Pro Pro Cys Phe Pro Phe Phe
65 70 75 80

Ser Asn Val Asn Pro Asn Val Val Val Val Leu Asp Cys Glu Ser Phe
85 90 95

Ala His Leu Phe Asp Met Glu Ile Val Glu Lys Ser Asn Val Leu Val
100 105 110

Gly Asp Phe Met Pro Ser Val Lys Tyr Thr Gly Asn Ile Arg Val Cys
115 120 125

Ala Tyr Leu Asp Thr Ser Glu Pro Gln His Ala Gln Val Lys Asn Phe
130 135 140

Ala Met Asp Ile Leu Lys Arg Ser Ser Lys Val Trp Glu Ser Glu Val
145 150 155 160

Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser Ser Leu Ala
165 170 175

Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys Phe Leu Phe
180 185 190

Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala Ala Ser Pro
195 200 205

Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp Leu Ala Leu
210 215 220

Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro Leu Val Glu
225 230 235 240

Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val Ser Gly Asp
245 250 255

Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg Glu Ala Val
260 265 270

Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu Ala Ile His
275 280 285

Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly Phe Ser Ile
290 295 300

Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr Thr Gly Leu
305 310 315 320

Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly Pro Ala Leu
325 330 335

Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser Val Val Tyr
340 345 350

Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr Ala Arg Ala
355 360 365

Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe Asp Val Lys
370 375 380

```
Lys Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met Thr Asp Pro
385                 390                 395                 400
Lys Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg Phe Val Gln
                405                 410                 415
Asn Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly Pro Gln Thr
            420                 425                 430
Gly Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val
        435                 440                 445
Thr Leu Thr Ala Cys Leu Phe Val Ala Tyr Met Phe Arg Arg Tyr Asn
    450                 455                 460
Ser Val Thr Gly Ser Ser Ser Ser Ile Thr Ala Val Glu Lys Ala Asn
465                 470                 475                 480
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<210> 4
<211> 483
<212> PRT
<213> Psidium Guajava (guava)

<400> 4

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Met Ser Asn Met Ser Pro Ala Met Ser Ser Thr Tyr Pro Pro Ser Leu
 1               5                  10                  15
Ser Pro Pro Ser Ser Pro Arg Pro Thr Thr Leu Pro Val Arg Thr Ile
            20                  25                  30
Pro Gly Ser Tyr Gly Trp Pro Leu Leu Gly Pro Ile Ser Asp Arg Leu
        35                  40                  45
Asp Tyr Phe Trp Phe Gln Gly Pro Glu Thr Phe Phe Arg Lys Arg Ile
    50                  55                  60
Glu Lys Tyr Lys Ser Thr Val Phe Arg Ala Asn Val Pro Pro Cys Phe
65                  70                  75                  80
Pro Phe Phe Ser Asn Val Asn Pro Asn Val Val Val Val Leu Asp Cys
                85                  90                  95
Glu Ser Phe Ala His Leu Phe Asp Met Glu Ile Val Glu Lys Ser Asn
            100                 105                 110
Val Leu Val Gly Asp Phe Met Pro Ser Val Lys Tyr Thr Gly Asn Ile
        115                 120                 125
Arg Val Cys Ala Tyr Leu Asp Thr Ser Glu Pro Gln His Ala Gln Val
    130                 135                 140
Lys Asn Phe Ala Met Asp Ile Leu Lys Arg Ser Ser Lys Val Trp Glu
145                 150                 155                 160
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Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp Asp Thr Ile Glu Ser
165 170 175
Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln Lys
180 185 190
Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile Gly Ala Asp Pro Ala
195 200 205
Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala Met Leu Asp Arg Trp
210 215 220
Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile Gly Val Leu Gln Pro
225 230 235 240
Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr Pro Phe Ala Leu Val
245 250 255
Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile Glu Lys Glu Gly Arg
260 265 270
Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly Leu Thr His Gln Glu
275 280 285
Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe Asn Ala Phe Gly Gly
290 295 300
Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn Ile Leu Ser Asp Thr
305 310 315 320
Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val Arg Ala Lys Gly Gly
325 330 335
Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met Glu Leu Val Lys Ser
340 345 350
Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro Val Pro Phe Gln Tyr
355 360 365
Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser His Asp Ser Val Phe
370 375 380
Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr Gln Lys Val Val Met
385 390 395 400
Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser Phe Asn Ser Asp Arg
405 410 415
Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu Tyr Trp Ser Asn Gly
420 425 430
Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys
435 440 445
Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val Ala Tyr Met Phe Arg
450 455 460

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Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser Ile Thr Ala Val Glu
465                 470                 475                 480
Lys Ala Asn
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<210> 5
<211> 8
<212> PRT
<213> Psidium Guajava (guava)

<400> 5

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Met Ala Arg Val Val Met Ser Asn
 1               5
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<210> 6
<211> 488
<212> PRT
<213> Psidium Guajava (guava)

<400> 6

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Met Ala Arg Val Val Met Ser Asn Met Ser Pro Ala Met Ser Ser Thr
 1               5                  10                  15
Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro Thr Thr Leu
            20                  25                  30
Pro Val Arg Thr Ile Pro Gly Ser Tyr Gly Trp Pro Leu Leu Gly Pro
        35                  40                  45
Ile Ser Asp Arg Leu Asp Tyr Phe Trp Phe Gln Gly Pro Glu Thr Phe
    50                  55                  60
Phe Arg Lys Arg Ile Glu Lys Tyr Lys Ser Thr Val Phe Arg Ala Asn
65                  70                  75                  80
Val Pro Pro Cys Phe Pro Phe Phe Ser Asn Val Asn Pro Asn Val Val
                85                  90                  95
Val Val Leu Asp Cys Glu Ser Phe Ala His Leu Phe Asp Met Glu Ile
            100                 105                 110
Val Glu Lys Ser Asn Val Leu Val Gly Asp Phe Met Pro Ser Val Lys
        115                 120                 125
Tyr Thr Gly Asn Ile Arg Val Cys Ala Tyr Leu Asp Thr Ser Glu Pro
    130                 135                 140
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Gln His Ala Gln Val Lys Asn Phe Ala Met Asp Ile Leu Lys Arg Ser
145                 150                 155                 160
Ser Lys Val Trp Glu Ser Glu Val Ile Ser Asn Leu Asp Thr Met Trp
                165                 170                 175
Asp Thr Ile Glu Ser Ser Leu Ala Lys Asp Gly Asn Ala Ser Val Ile
            180                 185                 190
Phe Pro Leu Gln Lys Phe Leu Phe Asn Phe Leu Ser Lys Ser Ile Ile
        195                 200                 205
Gly Ala Asp Pro Ala Ala Ser Pro Gln Val Ala Lys Ser Gly Tyr Ala
    210                 215                 220
Met Leu Asp Arg Trp Leu Ala Leu Gln Leu Leu Pro Thr Ile Asn Ile
225                 230                 235                 240
Gly Val Leu Gln Pro Leu Val Glu Ile Phe Leu His Ser Trp Ala Tyr
                245                 250                 255
Pro Phe Ala Leu Val Ser Gly Asp Tyr Asn Lys Leu Tyr Gln Phe Ile
            260                 265                 270
Glu Lys Glu Gly Arg Glu Ala Val Glu Arg Ala Lys Ala Glu Phe Gly
        275                 280                 285
Leu Thr His Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu Gly Phe
    290                 295                 300
Asn Ala Phe Gly Gly Phe Ser Ile Phe Leu Pro Thr Leu Leu Ser Asn
305                 310                 315                 320
Ile Leu Ser Asp Thr Thr Gly Leu Gln Asp Arg Leu Arg Lys Glu Val
                325                 330                 335
Arg Ala Lys Gly Gly Pro Ala Leu Ser Phe Ala Ser Val Lys Glu Met
            340                 345                 350
Glu Leu Val Lys Ser Val Val Tyr Glu Thr Leu Arg Leu Asn Pro Pro
        355                 360                 365
Val Pro Phe Gln Tyr Ala Arg Ala Arg Lys Asp Phe Gln Leu Lys Ser
    370                 375                 380
His Asp Ser Val Phe Asp Val Lys Lys Gly Glu Leu Leu Cys Gly Tyr
385                 390                 395                 400
Gln Lys Val Val Met Thr Asp Pro Lys Val Phe Asp Glu Pro Glu Ser
                405                 410                 415
Phe Asn Ser Asp Arg Phe Val Gln Asn Ser Glu Leu Leu Asp Tyr Leu
            420                 425                 430
Tyr Trp Ser Asn Gly Pro Gln Thr Gly Thr Pro Thr Glu Ser Asn Lys
        435                 440                 445
```

Gln Cys Ala Ala Lys Asp Tyr Val Thr Leu Thr Ala Cys Leu Phe Val
450 455 460
Ala Tyr Met Phe Arg Arg Tyr Asn Ser Val Thr Gly Ser Ser Ser Ser
465 470 475 480
Ile Thr Ala Val Glu Lys Ala Asn
485

<210> 7
<211> 1431
<212> DNA
<213> Psidium Guajava (guava)

<400> 7
atgtcgtcca cctacccccc gtctctgtcc ccgccgtcgt cgccgcggcc gaccaccctc 60
ccggtgcgga cgatcccggg cagctacggg tggcccctcc tcggcccgat atcggaccgc 120
ctggactact tctggttcca aggcccggag acgttcttca ggaagaggat cgagaagtac 180
aagagcaccg tgttccgcgc gaacgtgcct ccgtgcttcc ccttcttctc gaacgtgaac 240
cctaacgtcg tggtcgtcct cgattgcgag tccttcgctc acttgttcga catggagatc 300
gtggagaaga gcaacgtcct cgtcggcgac ttcatgccga gcgtgaagta caccgggaac 360
atccgggtct gcgcttacct cgacacttcc gagcctcaac acgctcaggt gaagaacttt 420
gcgatggaca tactgaagag gagctccaaa gtgtgggaga gcgaagtgat ctcgaacttg 480
gacaccatgt gggacaccat cgagtccagc ctcgccaagg acggcaacgc cagcgtcatc 540
ttccctctcc aaaagttcct cttcaacttc ctctccaagt ccatcatcgg cgctgacccg 600
gccgcctcgc cgcaggtggc caagtccggc tacgccatgc ttgaccggtg gctcgctctc 660
cagctcctcc ccaccatcaa cattggcgta ctgcagcctc tagtggagat ttttctgcat 720
tcttgggcat acccttttgc gctggtgagc ggggactaca acaagctcta ccagttcatc 780
gagaaggaag gccgagaagc ggtcgaaagg gcgaaggccg agttcggatt gacacaccag 840
gaggccatcc acaacttgct gttcatcctc ggcttcaacg cgttcggcgg cttctcgatc 900
ttcctcccca cgttgctgag caacatactt agcgacacaa ccggactgca ggaccggctg 960
aggaaggagg tccgggcaaa gggagggccg gcgttgagct tcgcctcggt gaaggagatg 1020
gaactcgtga agtcggtcgt gtacgagacg ctgcggctca acccgcccgt cccgttccaa 1080
tacgctcgag cccggaagga cttccagctc aagtcccacg actctgtctt tgatgtcaag 1140
aaaggcgagc tgctatgcgg gtatcagaag gtggtgatga cagacccgaa agtgttcgac 1200
gaaccggaga gcttcaactc ggaccggttc gtccaaaaca gcgagctact ggattacctg 1260
tactggtcca acgggccgca gaccggaacg ccgaccgagt cgaacaagca gtgcgcggct 1320
aaggactacg tcaccctcac cgcttgtctc ttcgttgcct acatgtttcg acggtacaat 1380
tccgtcacag gaagctcgag ctcgatcaca gccgttgaaa aggccaactg a 1431

<210> 8

<211> 1443

<212> DNA

<213> Psidium Guajava (guava)

<400> 8

atgtcgccgg ccatgtcgtc cacctacccc ccgtctctgt ccccgccgtc gtcgccgcgg 60
ccgaccaccc tcccggtgcg gacgatcccg ggcagctacg ggtggcccct cctcggcccg 120
atatcggacc gcctggacta cttctggttc caaggcccgg agacgttctt caggaagagg 180
atcgagaagt acaagagcac cgtgttccgc gcgaacgtgc ctccgtgctt ccccttcttc 240
tcgaacgtga accctaacgt cgtggtcgtc ctcgattgcg agtccttcgc tcacttgttc 300
gacatggaga tcgtggagaa gagcaacgtc ctcgtcggcg acttcatgcc gagcgtgaag 360
tacaccggga acatccgggt ctgcgcttac ctcgacactt ccgagcctca acacgctcag 420
gtgaagaact ttgcgatgga catactgaag aggagctcca aagtgtggga gagcgaagtg 480
atctcgaact tggacaccat gtgggacacc atcgagtcca gcctcgccaa ggacggcaac 540
gccagcgtca tcttccctct ccaaaagttc ctcttcaact tcctctccaa gtccatcatc 600
ggcgctgacc cggccgcctc gccgcaggtg gccaagtccg gctacgccat gcttgaccgg 660
tggctcgctc tccagctcct ccccaccatc aacattggcg tactgcagcc tctagtggag 720
atttttctgc attcttgggc atacccTTTT gcgctggtga gcggggacta caacaagctc 780
taccagttca tcgagaagga aggccgagaa gcggtcgaaa gggcgaaggc cgagttcgga 840
ttgacacacc aggaggccat ccacaacttg ctgttcatcc tcggcttcaa cgcgttcggc 900
ggcttctcga tcttcctccc cacgttgctg agcaacatac ttagcgacac aaccggactg 960
caggaccggc tgaggaagga ggtccgggca aagggagggc cggcgttgag cttcgcctcg 1020
gtgaaggaga tggaactcgt gaagtcggtc gtgtacgaga cgctgcggct caacccgccc 1080
gtcccgttcc aatacgctcg agcccggaag gacttccagc tcaagtccca cgactctgtc 1140
tttgatgtca agaaaggcga gctgctatgc gggtatcaga aggtggtgat gacagacccg 1200
aaagtgttcg acgaaccgga gagcttcaac tcggaccggt tcgtccaaaa cagcgagcta 1260
ctggattacc tgtactggtc caacgggccg cagaccggaa cgccgaccga gtcgaacaag 1320
cagtgcgcgg ctaaggacta cgtcaccctc accgcttgtc tcttcgttgc ctacatgttt 1380
cgacggtaca attccgtcac aggaagctcg agctcgatca cagccgttga aaaggccaac 1440
tga 1443

<210> 9

<211> 1452

<212> DNA

<213> Psidium Guajava (guava)

<400> 9

atgagcaaca tgtcgccggc catgtcgtcc acctaccccc cgtctctgtc cccgccgtcg 60
tcgccgcggc cgaccaccct cccggtgcgg acgatcccgg gcagctacgg gtggccctc 120

ctcggcccga tatcggaccg cctggactac ttctggttcc aaggcccgga gacgttcttc 180
aggaagagga tcgagaagta caagagcacc gtgttccgcg cgaacgtgcc tccgtgcttc 240
cccttcttct cgaacgtgaa ccctaacgtc gtggtcgtcc tcgattgcga gtccttcgct 300
cacttgttcg acatggagat cgtggagaag agcaacgtcc tcgtcggcga cttcatgccg 360
agcgtgaagt acaccgggaa catccgggtc tgcgcttacc tcgacacttc cgagcctcaa 420
cacgctcagg tgaagaactt tgcgatggac atactgaaga ggagctccaa agtgtgggag 480
agcgaagtga tctcgaactt ggacaccatg tgggacacca tcgagtccag cctcgccaag 540
gacggcaacg ccagcgtcat cttccctctc caaaagttcc tcttcaactt cctctccaag 600
tccatcatcg gcgctgaccc ggccgcctcg ccgcaggtgg ccaagtccgg ctacgccatg 660
cttgaccggt ggctcgctct ccagctcctc cccaccatca acattggcgt actgcagcct 720
ctagtggaga tttttctgca ttcttgggca taccctttttg cgctggtgag cggggactac 780
aacaagctct accagttcat cgagaaggaa ggccgagaag cggtcgaaag ggcgaaggcc 840
gagttcggat tgacacacca ggaggccatc cacaacttgc tgttcatcct cggcttcaac 900
gcgttcggcg gcttctcgat cttcctcccc acgttgctga gcaacatact tagcgacaca 960
accggactgc aggaccggct gaggaaggag gtccgggcaa agggagggcc ggcgttgagc 1020
ttcgcctcgg tgaaggagat ggaactcgtg aagtcggtcg tgtacgagac gctgcggctc 1080
aacccgcccg tcccgttcca atacgctcga gcccggaagg acttccagct caagtcccac 1140
gactctgtct ttgatgtcaa gaaaggcgag ctgctatgcg ggtatcagaa ggtggtgatg 1200
acagacccga aagtgttcga cgaaccggag agcttcaact cggaccggtt cgtccaaaac 1260
agcgagctac tggattacct gtactggtcc aacgggccgc agaccggaac gccgaccgag 1320
tcgaacaagc agtgcgcggc taaggactac gtcaccctca ccgcttgtct cttcgttgcc 1380
tacatgtttc gacggtacaa ttccgtcaca ggaagctcga gctcgatcac agccgttgaa 1440
aaggccaact ga 1452

<210> 10
<211> 1467
<212> DNA
<213> Psidium Guajava (guava)

<400> 10
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ctgtccccgc cgtcgtcgcc gcggccgacc accctcccgg tgcggacgat cccgggcagc 120
tacgggtggc ccctcctcgg cccgatatcg gaccgcctgg actacttctg gttccaaggc 180
ccggagacgt tcttcaggaa gaggatcgag aagtacaaga gcaccgtgtt ccgcgcgaac 240
gtgcctccgt gcttcccctt cttctcgaac gtgaacccta acgtcgtggt cgtcctcgat 300
tgcgagtcct tcgctcactt gttcgacatg gagatcgtgg agaagagcaa cgtcctcgtc 360
ggcgacttca tgccgagcgt gaagtacacc gggaacatcc gggtctgcgc ttacctcgac 420
acttccgagc ctcaacacgc tcaggtgaag aactttgcga tggacatact gaagaggagc 480
tccaaagtgt gggagagcga agtgatctcg aacttggaca ccatgtggga caccatcgag 540

tccagcctcg ccaaggacgg caacgccagc gtcatcttcc ctctccaaaa gttcctcttc 600
aacttcctct ccaagtccat catcggcgct gacccggccg cctcgccgca ggtggccaag 660
tccggctacg ccatgcttga ccggtggctc gctctccagc tcctccccac catcaacatt 720
ggcgtactgc agcctctagt ggagattttt ctgcattctt gggcataccc ttttgcgctg 780
gtgagcgggg actacaacaa gctctaccag ttcatcgaga aggaaggccg agaagcggtc 840
gaaagggcga aggccgagtt cggattgaca caccaggagg ccatccacaa cttgctgttc 900
atcctcggct tcaacgcgtt cggcggcttc tcgatcttcc tccccacgtt gctgagcaac 960
atacttagcg acacaaccgg actgcaggac cggctgagga aggaggtccg ggcaaaggga 1020
gggccggcgt tgagcttcgc ctcggtgaag gagatggaac tcgtgaagtc ggtcgtgtac 1080
gagacgctgc ggctcaaccc gcccgtcccg ttccaatacg ctcgagcccg gaaggacttc 1140
cagctcaagt cccacgactc tgtctttgat gtcaagaaag gcgagctgct atgcgggtat 1200
cagaaggtgg tgatgacaga cccgaaagtg ttcgacgaac cggagagctt caactcggac 1260
cggttcgtcc aaaacagcga gctactggat tacctgtact ggtccaacgg gccgcagacc 1320
ggaacgccga ccgagtcgaa caagcagtgc gcggctaagg actacgtcac cctcaccgct 1380
tgtctcttcg ttgcctacat gtttcgacgg tacaattccg tcacaggaag ctcgagctcg 1440
atcacagccg ttgaaaaggc caactga 1467

<210> 11
<211> 1443
<212> DNA
<213> Capsicum annum (green pepper)

<400> 11
atgataccta taatgagctc tgctcctcta tcaactgcta caccaatatc tctccccgta 60
cgtaaaattc cagggagcta cgggtttcca ttattagggc cactttggga tcgattagac 120
tataactggt tccaaaagct cccagatttc ttcagcaaga gagtcgaaaa gtataacagc 180
acggtattca gaacgaatgt accgccttgt tttccatttt ttttgggtgt aaatccaaat 240
gtagtggcgg tactggatgt caagtcattt gcacatctat ttgatatgga gattgttgag 300
aaagctaatg tgcttgttgg tgatttcatg cccagtgttg tttatactgg tgatatgcgt 360
gtttgtgctt atcttgatac ttctgaacct aaacatactc agattaagaa cttttcattg 420
gacatcctaa aaagaagttc aaagacatgg gtgcctacac tagttaaaga acttgataca 480
ctgttcggaa cttttgaatc agatctttca aaatccaaat cagcttctct tctccctgca 540
ttgcaaaaat tcctcttcaa cttcttctcc ttaactttcc tcggggccga tccatcagcc 600
tcaccggaga tagccaactc tggcttcgcc tatcttgatg catggctagc tattcaacta 660
gcacctactg ttagcattgg tgttcttcaa ccccttgaag aaatcttcgt ccactctttt 720
tcataccccc atttttcttgt ccgtggaggt tacgaaaaac tcattaagtt tgtgaaaagt 780
gaagctaagg aagtgttaac gagggcacaa acagactttc agctaactga acaagaagcc 840
attcataacc ttttgttcat tcttggattc aatgcttttg gtggtttcac cattttcttg 900
ccaacccttc tgggaaacct tgggagacga gaaaaatgct gagatgcaag agaaactgag 960

aaaagaagtg agggaaaaag ttggacaaat caagaaaact tgagttttga gagtgtaaaa 1020
gaaatggaac tggttcagtc ttttgtttat gaatcactta ggctaagccc accagtgcca 1080
agtcaatatg caagagcaag aaaagacttc atgctcagtt cacatgattc agtttacgaa 1140
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tttgatgaac ctgaaaagtt tatgttggag aggtttacaa aggagaaagg gaaagaattg 1260
ctgaattatt tgttttggtc taatggccca cagactggga gccctactga atcaaacaag 1320
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<210> 12
<211> 1638
<212> DNA
<213> Musa sp. (banana)

<400> 12
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ctcaaggacc gcctcgacta cttctggttt cagggaccgg agaccttctt ccgcagccgg 180
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gttggagtcg accccgcgt ggtcaccgtc ctcgactgca catccttctc cgccctcttc 300
gacctcgagg tcgtggagaa gaagaacatt ctcatcgggg actacatgcc cagcctcagc 360
ttcaccggcg acacccgcgt cgtcgtgtac ctcgacccct ccgagcccga ccacgcccgc 420
gtgaagagct tctgcttgga actcctcagg cgcggcgcca agacctgggt ctcctcgttc 480
ctctccaatc tcgatgtcat gctcgccacc atagagcagg ggatcgccaa ggatggctcc 540
gccggcttat tcggcccgct gcagaagtgc atcttcgcgt tcctctgcaa gagcatcatc 600
ggggccgacc cgtcggtgtc gcccgacgtg ggagaaaatg gcttcgtcat gctcgacaag 660
tggcttgcgc tgcagctcct cccgacggtg aaggtcgggg ccatcccgca acccctggag 720
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ctgatggcgg agatcttcta ccgctacgac gagttcgtgt gcgccgacga cgccatctcc 1440

gtgacgaagc tggatagagc gagagaatgg gagtaaacgg tattcaagtc ggaagcgaca 1500

taaggagacg gccaactcca ccgttgctaa ttcaagtcgt actccaaatc ggtattcata 1560

tcatcgttcc attggggtga tgaagagata aataaaattt gacgttgcag gaggctacaa 1620

aaaaaaaaaa aaaaaaaa 1638

<210> 13

<211> 11

<212> PRT

<213> Psidium Guajava (guava)

<400> 13

Asp Gly Asn Ala Ser Val Ile Phe Pro Leu Gln
1 5 10

<210> 14

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 14

Asn Phe Ala Met Asp Ile Leu
1 5

<210> 15

<211> 7

<212> PRT

<213> Psidium Guajava (guava)

<400> 15

Phe Leu Phe Asn Phe Leu Ser
1 5

<210> 16

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of artificial sequence:
/note=synthetic construct

<400> 16
gcggatccgg ccatgagcaa catgtcg 27

<210> 17
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of artificial sequence:
/note=synthetic construct

<400> 17
aatgttgatg gtggggagga g 21

<210> 18
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of artificial sequence:
/note=synthetic construct

<400> 18
gcggatccgg ccatgtcgcc ggccat 26

<210> 19
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of artificial sequence:
/note=synthetic construct

<400> 19
gcggatccgg ccatgtcgtc cacctac 27

<210> 20
<211> 8
<212> PRT
<213> Psidium Guajava (guava)

<400> 20
Thr Tyr Pro Pro Ser Leu Ser Pro
1 5

<210> 21
<211> 10
<212> PRT
<213> Psidium Guajava (guava)

<400> 21
Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser
1 5 10

<210> 22
<211> 12
<212> PRT
<213> Psidium Guajava (guava)

<400> 22
Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro
1 5 10

<210> 23
<211> 13
<212> PRT
<213> Psidium Guajava (guava)

<400> 23
Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg
1 5 10

<210> 24
<211> 14
<212> PRT
<213> Psidium Guajava (guava)

<400> 24
Thr Tyr Pro Pro Ser Leu Ser Pro Pro Ser Ser Pro Arg Pro
1 5 10

<210> 25
<211> 480
<212> PRT
<213> Capsicum annum (green pepper)

<400> 25
Met Ile Pro Ile Met Ser Ser Ala Pro Leu Ser Thr Ala Thr Pro Ile
1 5 10 15
Ser Leu Pro Val Arg Lys Ile Pro Gly Ser Tyr Gly Phe Pro Leu Leu
20 25 30
Gly Pro Leu Trp Asp Arg Leu Asp Tyr Asn Trp Phe Gln Lys Leu Pro
35 40 45
Asp Phe Phe Ser Lys Arg Val Glu Lys Tyr Asn Ser Thr Val Phe Arg
50 55 60
Thr Asn Val Pro Pro Cys Phe Pro Phe Phe Leu Gly Val Asn Pro Asn
65 70 75 80
Val Val Ala Val Leu Asp Val Lys Ser Phe Ala His Leu Phe Asp Met
85 90 95
Glu Ile Val Glu Lys Ala Asn Val Leu Val Gly Asp Phe Met Pro Ser
100 105 110
Val Val Tyr Thr Gly Asp Met Arg Val Cys Ala Tyr Leu Asp Thr Ser
115 120 125
Glu Pro Lys His Thr Gln Ile Lys Asn Phe Ser Leu Asp Ile Leu Lys
130 135 140
Arg Ser Ser Lys Thr Trp Val Pro Thr Leu Val Lys Glu Leu Asp Thr
145 150 155 160
Leu Phe Gly Thr Phe Glu Ser Asp Leu Ser Lys Ser Lys Ser Ala Ser
165 170 175

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Leu Leu Pro Ala Leu Gln Lys Phe Leu Phe Asn Phe Phe Ser Leu Thr
            180                 185                 190
Phe Leu Gly Ala Asp Pro Ser Ala Ser Pro Glu Ile Ala Asn Ser Gly
        195                 200                 205
Phe Ala Tyr Leu Asp Ala Trp Leu Ala Ile Gln Leu Ala Pro Thr Val
    210                 215                 220
Ser Ile Gly Val Leu Gln Pro Leu Glu Glu Ile Phe Val His Ser Phe
225                 230                 235                 240
Ser Tyr Pro Tyr Phe Leu Val Arg Gly Gly Tyr Glu Lys Leu Ile Lys
                245                 250                 255
Phe Val Lys Ser Glu Ala Lys Glu Val Leu Thr Arg Ala Gln Thr Asp
            260                 265                 270
Phe Gln Leu Thr Glu Gln Glu Ala Ile His Asn Leu Leu Phe Ile Leu
        275                 280                 285
Gly Phe Asn Ala Phe Gly Gly Phe Thr Ile Phe Leu Pro Thr Leu Leu
    290                 295                 300
Gly Asn Leu Gly Asp Glu Lys Asn Ala Glu Met Gln Glu Lys Leu Arg
305                 310                 315                 320
Lys Glu Val Arg Glu Lys Val Gly Thr Asn Gln Glu Asn Leu Ser Phe
                325                 330                 335
Glu Ser Val Lys Glu Met Glu Leu Val Gln Ser Phe Val Tyr Glu Ser
            340                 345                 350
Leu Arg Leu Ser Pro Pro Val Pro Ser Gln Tyr Ala Arg Ala Arg Lys
        355                 360                 365
Asp Phe Met Leu Ser Ser His Asp Ser Val Tyr Glu Ile Lys Lys Gly
    370                 375                 380
Glu Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Lys Asp Pro Lys Val
385                 390                 395                 400
Phe Asp Glu Pro Glu Lys Phe Met Leu Glu Arg Phe Thr Lys Glu Lys
                405                 410                 415
Gly Lys Glu Leu Leu Asn Tyr Leu Phe Trp Ser Asn Gly Pro Gln Thr
            420                 425                 430
Gly Ser Pro Thr Glu Ser Asn Lys Gln Cys Ala Ala Lys Asp Ala Val
        435                 440                 445
Thr Leu Thr Ala Ser Leu Ile Val Ala Tyr Ile Phe Gln Lys Tyr Asp
    450                 455                 460
Ser Val Ser Phe Ser Ser Gly Ser Leu Thr Ser Val Lys Lys Ala Cys
465                 470                 475                 480
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<210> 26
<211> 483
<212> PRT
<213> Musa sp. (banana)

<400> 26

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Pro Thr Arg Pro Ile Pro Gly Ser Tyr Gly Pro Pro Leu Val Gly Pro
            20                  25                  30
Leu Lys Asp Arg Leu Asp Tyr Phe Thr Phe Gln Gly Pro Glu Thr Phe
        35                  40                  45
Phe Arg Ser Arg Met Ala Thr His Lys Ser Thr Val Phe Arg Thr Asn
    50                  55                  60
Met Pro Pro Thr Phe Pro Phe Phe Val Gly Val Asp Pro Arg Val Val
65                  70                  75                  80
Thr Val Leu Asp Cys Thr Ser Phe Ser Ala Leu Phe Asp Leu Glu Val
                85                  90                  95
Val Glu Lys Lys Asn Ile Leu Ile Gly Asp Tyr Met Pro Ser Leu Ser
            100                 105                 110
Phe Thr Gly Asp Thr Arg Val Val Val Tyr Leu Asp Pro Ser Glu Pro
        115                 120                 125
Asp His Ala Arg Val Lys Ser Phe Cys Leu Glu Leu Leu Arg Arg Gly
    130                 135                 140
Ala Lys Thr Trp Val Ser Ser Phe Leu Ser Asn Leu Asp Val Met Leu
145                 150                 155                 160
Ala Thr Ile Glu Gln Gly Ile Ala Lys Asp Gly Ser Ala Gly Leu Phe
                165                 170                 175
Gly Pro Leu Gln Lys Cys Ile Phe Ala Phe Leu Cys Lys Ser Ile Ile
            180                 185                 190
Gly Ala Asp Pro Ser Val Ser Pro Asp Val Gly Glu Asn Gly Phe Val
        195                 200                 205
Met Leu Asp Lys Trp Leu Ala Leu Gln Leu Leu Pro Thr Val Lys Val
    210                 215                 220
Gly Ala Ile Pro Gln Pro Leu Glu Glu Ile Leu Leu His Ser Phe Pro
225                 230                 235                 240
Leu Pro Phe Phe Leu Val Ser Arg Asp Tyr Arg Lys Leu Tyr Glu Phe
                245                 250                 255
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Val Glu Lys Gln Gly Gln Glu Val Val Arg Arg Ala Glu Thr Glu His
260 265 270

Gly Leu Ser Lys His Asp Ala Ile Asn Asn Ile Leu Phe Val Leu Gly
275 280 285

Phe Asn Ala Phe Gly Gly Phe Ser Val Phe Phe Pro Thr Leu Leu Thr
290 295 300

Thr Ile Gly Arg Asp Lys Thr Gly Leu Arg Glu Lys Leu Lys Asp Glu
305 310 315 320

Val Arg Arg Val Met Lys Ser Arg Gly Glu Lys Arg Pro Ser Phe Glu
325 330 335

Thr Val Arg Glu Met Glu Leu Val Arg Ser Thr Val Tyr Glu Val Leu
340 345 350

Arg Leu Asn Pro Pro Val Pro Leu Gln Tyr Gly Arg Ala Arg Thr Asp
355 360 365

Phe Thr Leu Asn Ser His Asp Ala Ala Phe Lys Val Glu Lys Gly Glu
370 375 380

Leu Leu Cys Gly Tyr Gln Pro Leu Val Met Arg Asp Pro Ala Val Phe
385 390 395 400

Asp Asp Pro Glu Thr Phe Ala Pro Glu Arg Phe Met Gly Ser Gly Lys
405 410 415

Glu Leu Leu Lys Tyr Val Phe Trp Ser Asn Gly Pro Glu Thr Gly Thr
420 425 430

Pro Thr Pro Ala Asn Lys Gln Cys Ala Ala Lys Asp Tyr Val Val Glu
435 440 445

Thr Ala Cys Leu Leu Met Ala Glu Ile Phe Tyr Arg Tyr Asp Glu Phe
450 455 460

Val Cys Ala Asp Asp Ala Ile Ser Val Thr Lys Leu Asp Arg Ala Arg
465 470 475 480

Glu Trp Glu

<210> 27

<211> 1464

<212> DNA

<213> Psidium Guajava

<400> 27

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ctgtccccgc cgtcgtcgcc gcggccgacc accctcccgg tgcggacgat cccgggcagc 120

tacgggtggc ccctcctcgg cccgatatcg gaccgcctgg actacttctg gttccaaggc 180
ccggagacgt tcttcaggaa gaggatcgag aagtacaaga gcaccgtgtt ccgcgcgaac 240
gtgcctccgt gcttcccctt cttctcgaac gtgaagccta acgtcgtggt cgtcctcgat 300
tgcgagtcct tcgctcactt gttcgacatg gagatcgtgg agaagagcaa cgtcctcgtc 360
ggcgacttca tgccgagcgt gaagtacacc gggaacatcc gggtctgcgc ttacctcgac 420
acttccgagc ctcaacacgc tcaggtgaag aactttgcga tggacatact gaagaggagc 480
tccaaagtgt gggagagcga agtgatctcg aacttggaca ccatgtggga caccatcgag 540
tccagcctcg ccaaggacgg caacgccagc gtcatcttcc ctctccaaaa gttcctcttc 600
aacttcctct ccaagtccat catcggcgct gacccggccg cctcgccgca ggtggccaag 660
tccggctacg ccatgcttga ccggtggctc gctctccagc tcctccccac catcaacatt 720
ggcgtactgc agcctctagt ggagattttt ctgcatttctt gggcataccc ttttgcgctg 780
gtgagcgggg actacaacaa gctctaccag ttcatcgaga aggaaggccg agaagcggtc 840
gaaagggcga aggccgagtt cggattgaca caccaggagg ccatccacaa cttgctgttc 900
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cagaaggtgg tgatgacaga cccgaaagtg ttcgacgaac cggagagctt caactcggac 1260
cggttcgtcc aaaacagcga gctactggat tacctgtact ggtccaacgg gccgcagacc 1320
ggaacgccga ccgagtcgaa caagcagtgc gcggctaagg actacgtcac cctcaccgct 1380
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atcacagccg ttgaaaaggc caac 1464